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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,375	09/08/2003	Hiroki Kishi	03500.017558	8246

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EXAMINER

SHAH, PARAS D

ART UNIT	PAPER NUMBER
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2609

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/656,375

Applicant(s)

KISHI, HIROKI

Examiner

Paras Shah

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/08/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/30/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is in response to the Application filed on 09/08/2003.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

3. The disclosure is objected to because of the following informalities: "image processing apparatus 200... as illustrated in Figure 3" on page 7, line 24-26 is not shown in Figure 3.

Appropriate correction is required.

4. The disclosure is objected to because of the following informalities: "FET" should be "FFT" on page 22, line 25 and on page 23, line 1.

Appropriate correction is required.

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: In claim 5 and 14, the limitation "a plurality of audio data encoding circuits and executes the compression-encoding processing by adaptively switching over said plurality of audio data encoding circuits". There is insufficient support in the specification for the "adaptively switching" and "plurality of encoding circuits." In claim 14 "circuits" is replaced by "methods."

Claim Objections

6. Claim 18 is objected to because of the following informalities: states an apparatus claim rather than a method claim in line 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 10-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
9. Claim 10 is rejected as being unclear as to what the applicant is claiming to regard as the invention, where in lines 6-7 indicates "an image encoding setting step of setting said image encoding step to encode". The following was interpreted as being only setting of an image encoding step. Further, in lines 10-11 indicates "an audio data encoding setting step of setting said audio data encoding step to encode". The following was interpreted as being only setting of an audio data encoding step.
10. Claims 11-18 are rejected as being based upon an indefinite independent claim
- 10.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

12. Claims 1, 5, 8-10, 14, and 17-19 are rejected under 35 U.S.C. 102(a) as being anticipated by Maeda (US PGPub 2001/0048770, 12/06/2001).

As to claim 1, Maeda discloses an image processing apparatus comprising: image encoding means for encoding image data (see page 4, [0080], line 19) inputted (see page 4, [0080], line 2) (e.g. The reference uses MPEG-4 data that is already encoded); audio data encoding means (see page 12, [0204], line 1-3) for encoding audio data inputted together with the image data (see page 12, [0204], line 2); image encoding setting means (see page 2, [0026], lines 3-4) for setting said image encoding means to encode the image data (e.g. Specifying an ROI of the moving image as being set by the reference and has been known to be of higher quality) so that a scene exhibiting a high degree of significance is encoded with a high image quality (see page 1, [0007], lines 1-3); and audio data encoding setting means (see page 2, [0026], lines 3-4) for setting said audio data encoding means to process the audio data (see page 12, [0204], line 1-3) (e.g. It should be note that in the reference the audio data is appended with the image data. Further, the applicant regards the audio setting means as the ROI setting done for the image and since the audio is appended it is inherent that the audio data will be affected for specific region. The audio data is encoded by a

MPEG4 encoder) in accordance with the setting by said image encoding setting means so that the audio data is processed with a high acoustic quality (e.g. It is inherent that the audio data quality will be changed as seen from the better image quality for the selected ROI as in the case of the image. This will occur since for the selected ROI, the audio is reproduced).

As to claims 5 and 14, Maeda discloses wherein said audio decoding means (see Fig. 24, element 2401) includes a plurality of audio data encoding circuits (see Fig. 24, elements 2401 and 2413) and executed compression-encoding processing (see Figure element 2401) (e.g. The MPEG4 encoder already encodes the audio data beforehand) by adaptively switching over said plurality of audio data encoding circuits (e.g. It is seen that once the object region is specified (ROI) the encoded audio will switch between the MPEG4 encoded data to the entropy encoder (see page 13, [0218], lines 7-11) depending if audio data is appended) in accordance with the inputted audio data during the period for which the audio data (see page 12, [0204], line 1-3) are processed with the high acoustic quality in accordance with the setting by said audio data encoding setting means (see page 2, [0026], lines 3-4).

As to claims 8 and 17, Maeda discloses wherein said image encoding setting means makes the setting so as to encode a partial region of the image (see page 15, [0247], line 12-13) (e.g. ROI) data with the high image quality (see page 1, [0007], lines 1-3) in accordance with a user's instruction for designating a degree of significance of the image (see page 15, [0247], line 14-15) (e.g. It is implied that the user's selection of the ROI shows some type of significance to the image desired).

As to claims 9 and 18, Maeda discloses wherein image encoding setting means makes the ROI setting image (see page 15, [0247], line 12-13) in accordance with the user's instruction (see page 15, [0247], line 14-15), and wherein said image encoding means executes the ROI encoding (see page 15, [0247], line 16-17).

As to claims 10 and 19, Maeda discloses an image processing method comprising: an image encoding step of inputting a moving image (see page 9, [0159], lines 1-3) (e.g. It is seen in this reference that moving images are being selected depending on user.) and encoding image data thereof (see page 4, [0080], line 19) inputted (see page 4, [0080], line 2) (e.g. The reference uses MPEG-4 data that is already encoded); audio data encoding means; an audio data encoding step of encoding audio data inputted together (see page 12, [0204], line 1-3) (e.g. It should be note that in the reference the audio data is appended with the image data. Audio data is encoded by a MPEG4 encoder) with the moving image; an image encoding setting step of setting said image encoding step to encode (see page 2, [0026], lines 3-4), with a high image quality (see page 1, [0007], lines 1-3), a partial region of each of frame images forming the moving image; and an audio data encoding setting step of setting said audio data encoding step to process the audio data (see page 12, [0204], line 1-3) (e.g. It should be note that in the reference the audio data is appended with the image data. Further, the applicant regards the audio setting means as the ROI setting done for the image and since the audio is appended it is inherent that the audio data will be affected) with a high definition in accordance with the setting in said image encoding setting step (e.g. It is inherent that the audio data quality will be changed as seen from

the better image quality for the selected ROI as in the case of the image. This will occur since for the selected ROI, the audio is reproduced).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 2, 3, 11, 12, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda.

As to claims 2, 11 and 20 Maeda discloses wherein image encoding setting means (see page 2, [0026], lines 3-4) can selectively set a region so the partial region (e.g. Interpreted as ROI.) exhibits high image quality (see page 1, [0007], lines 1-3). Further, Maeda discloses an audio data setting means processing the audio data (see page 14, [0233], line 10-14) (e.g. It is seen from the reference that the image corresponding to the ROI portion is used and stored and the audio encoded for this image is reproduced by the sound device. Hence, processing of the audio is being done with respect to the ROI setting and the image for synchronization) corresponding to the setting done by the image encoding setting. However, Maeda does not specifically disclose the selectively setting of a region in each frame n. It would have been obvious to one of ordinary skilled in the art at the time the invention was made to have a setting,

which selectively selects a part of a region for each frame. The motivation to select a region in a frame is since a video consists of images presented on separate frames. Thus, it would have been obvious that the ROI chosen by the user in this reference will choose a region in a frame (see page 6, [0102], lines 1-2).

As to claims 3 and 12, Maeda discloses wherein audio data encoding means executes compression encoding where a larger amount of bits (see page 13, [0216], lines 9 and 12) (e.g. In this case, the bits are assigned a value of zero for anything outside of the object region (ROI)) are assigned during the period for which audio is processed with high acoustic quality (e.g. Since the ROI is being used for the image and the image and audio are synchronized, it is inherent that a higher acoustic quality will be observed by the filling of 0 bits outside of the object region) . However, Maeda does not specifically disclose the audio setting means setting a larger amount of codes. From the applicant's specification the codes are interpreted as being the output once the bits are assigned, which is seen in the Maeda but not disclosed specifically. It would have been obvious to one of ordinary skilled in the art at the time the invention was made to set larger amount of codes for the audio during the ROI period. The motivation to have used larger amount of codes include the increase in bits for the audio information in the specified object region than when no audio data is found (see page 14, [0236], line 8).

15. Claims 4, 6-7, 13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda as applied to claim 1 above, in view of Fumiaki (JP Pub 2001-230947, see English Translation done by Machine Translation).

As to claims 4 and 13, Maeda discloses wherein compression encoding of audio data during the period for which audio data (see page 12, [0204], line 1-3) is processed with high acoustic quality (e.g. This is referring to the ROI set by the user). However, Maeda does not specifically disclose the invalidating of audio encoding (e.g. It should be noted that this was interpreted as not performing encoding for the ROI region). Fumiaki does disclose the compression coding being performed for the ROI region and no compression coding being performed in the non-ROI region of the image data (see page 6, [0070], lines 1-6) (e.g. In the Maeda reference audio data is appended to image data and thus the ROI selected by the user will encode audio for the ROI). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to have modified the audio encoding as presented by Maeda with the selective process of encoding presented by Fumiaki. The motivation to have combined the two references involve the use of JPEG2000 for image encoding, which gives priority to the higher order bit plane at time of coding (see page 6, [0070], lines 3-4) (e.g. Since the image data is appended with audio, the invalidation of the image data also applies to the portion of audio data since only this portion of the ROI is desired and the audio data is reproduced for this segment data (see page 14, [0233], line 10-14).

As to claims 6,7, 15, and 16, Maeda discloses an image processing method and apparatus, which encodes image and audio data with the use of a setting to encode specific data for quality purposes. However, Maeda does not specifically disclose wherein image encoding setting makes the setting to encode a region. Fumiaki does disclose an image encoding (see page 6, [0070], line 7) setting means to encode a

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region including an object (see page 1, [0006], lines 1-2 and page 7, [0080], line 2) (e.g. It is seen that automatic setting is done for obtaining ROI), with the higher image quality including the object (see page 6, [0070], line 6) and the ROI region is encoded (see page 6, [0070], line 4) (e.g. Once the ROI is determined encoding is done as seen from this reference). It would have been obvious to one of ordinary skilled in the art at the time the invention was made to have combined the image processing method and apparatus disclosed by Maeda with the automatic ROI setting as presented by Fumiaki. The motivation to have combined the two references include the savings of time and effort, which may occur when an individual sets up and ROI (see Fumiaki, page 1, [0004], lines 1-3 and [0006], lines 1-2).

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Boliek *et al.* (US 6,141,446) is cited to teach a compression/decompression and encoding a decoding for input signals including audio and image. Krishnamurthy *et al.* (US 6,496,607) is cited to teach classification of regions of an image (ROI). Sato *et al.* (US 6,879,726) is cited to teach a wavelet transformation unit along with an encoder for images. Lennon (US 7,0657,250) is cited to teach analyzing of an image for ROI.

Tanaka (JP 2002-171529A) is cited to teach a video encoder for broadcast television.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paras Shah whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-FRI. 7:30a.m.-5:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xiao Wu can be reached on (571)272-7761. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

P.S.

02/15/07


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SUPERVISORY PATENT EXAMINER